Assessing education program learning outcomes

Rima Bahous · Mona Nabhani

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Abstract Teacher education programs help teachers gain knowledge and skills, develop ‘new’ attitudes, and impact their beliefs about teaching, thereby favorably affecting teaching outcomes. In the absence of national standards and formal studies in Lebanon of existing teacher preparation programs, findings of this study could greatly contribute to needed research in the field and inform policy makers. This study examines a pre-service education program at a private university in Lebanon for the purpose of assessing the program’s learning outcomes. Qualitative data were collected from questionnaires, pre and post surveys, and reflective journals focusing on perceptions of an effective teacher before and after training to detect any development from 50 student–teachers enrolled in the senior practicum classes during the scholastic year when the study was conducted. Fifteen student journals were examined for their reflections on principles, facts and techniques acquired, changes in behavior after training, and the relation of learned theory to work field in light of what they had experienced during their 180 h of fieldwork and seminars at the university. Results were then compared to the program’s stated learning outcomes to assess whether they were achieved. Findings indicated that training positively affects student–teachers, but still more rigorous steps should be taken to ensure that all learning outcomes are met. Implications for program training improvement and recommendations for future research are made.

Keywords Program assessment · Learning outcomes · Lebanon · Higher education

1 Introduction

In the past three decades, substantial research has been conducted in the field of teacher education. Chism and Szabo (1997), Kennedy (1998), Wilson et al. (2002),

R. Bahous (✉) · M. Nabhani
Lebanese American University, P.O. Box 13 – 5053 (18F), Chouran, Beirut 1102 2801, Lebanon
e-mail: rbahous@lau.edu.lb

M. Nabhani
e-mail: mnabhani@lau.edu.lb
Dirani (2002), Sinjkdar (2002), McFadden and Sheeren (2005), Thursby et al. (2009), Cluphf and Lox (2009) among others examined various teacher preparation programs, used different program assessment methods, and came up with recommendations for improvement. Program assessment is a tool for collecting data to help make decisions about what to reinforce or modify (Milloy and Brooke 2004; Kaufman et al. 1998). It is a “systematic set of procedures undertaken for the purpose of setting priorities and making decisions about programs or organizational improvement” (Witkin and Altschuld 1995 p. 4). Outcomes based education is focusing on what learners can do after they are taught. All decisions (whether curriculum or teaching ones) are based on how to acquire the desired learning outcomes (Bresciani 2006).

International research on teacher preparation programs focuses on teachers’ pre-service preparation in subject matter and pedagogy, quality of teachers’ field experience, and the effects of policies on the field. For example, Kennedy (1998) found that teacher education programs help teachers gain knowledge and skills, develop new attitudes, and alter their beliefs about teaching, thereby favorably affecting teaching outcomes. However, McFadden and Sheeren (2005) argued that current teacher preparation curricula are ill-equipped to produce professional teachers. More quality research is needed to further explore teachers’ preparation in subject matter, pedagogy, and student learning (Wilson et al. 2002). The university adopted learning based outcomes for different reasons: the most obvious one is for accreditation purposes, yet other reasons are the firm belief of the administrators and the faculty to clarify to the students the requirements (outcomes and assessment) pertaining to each course and/or program.

In this study we examine the learning outcomes of a student teacher preparation program by eliciting students’ perspectives of the program. The program’s stated learning outcomes include preparing pre-service teachers to gain knowledge and skills relevant to the profession of teaching and their areas of emphasis, and develop positive attitudes to the profession, to students and to ongoing learning. We hypothesize that exploring student teachers’ views of their program might offer valuable insight that would set a base for assessing the achievement of the learning outcomes.

Student teachers were trained in reflective journal writing, and data were collected from these. We argue that reflective writing is an essential component in preparing future teachers because it helps them rethink their prior ideas of teaching in light of their new experiences and synthesize theoretical and practical knowledge (Larrivee 2000; Martin 2005; Russell and Mumby 1992).

The reviewed literature (e.g. Bransford et al. 2005a; Larrivee 2000; Kennedy 1998; Martin 2005) suggests that novice teachers should be reflective critical thinkers to be able to achieve the above outcomes, to construct the knowledge needed to guide their classroom actions (Schon 1987) and steer their own professional development to improve their practice (Korthagen 2001). Reflecting on what is learned entails comparing learned theory to practice and new knowledge to that previously learned, and bridging the gap between coursework and fieldwork, all being important in educating teachers (Hammermess and Darling-Hammond 2005).

Teacher preparation, teacher pre-service education and teacher education in this paper are used interchangeably and refer to pre-service college training of student—
teachers through apprenticeships with qualified cooperating school teachers (Horowitz et al. 2005).

2 Overview

Education in Lebanon has changed a lot in the past few centuries (see Nabhani et al. 2010 for a more detailed review). Around 1920, the Ministry of Education adopted the French curriculum and schools implemented it in their classes. At that time, more than 80% of the schools taught all subjects in French. The Arabic language was only taught as a language. Other schools taught all subjects in English. In 1969, the curriculum was revisited and some minor changes were implemented. The Lebanese in general kept on sending their children to private schools and not to the public ones as the latter were (and still are) considered below average. The Lebanese civil war in 1975, stopped all attempts to develop the curriculum. It was only in 1995 that the Ministry of Education with the help of many universities as well as school–teachers prepared and implemented the new Lebanese curriculum. Still French and/or English were (and are still) the medium of instruction in most schools, and Arabic is only used to teach the Arabic language and social studies.

Teacher preparation programs have been offered since the early 20th century by private universities to cater for the private schools that educated more than 50% of Lebanese students. The Lebanese government followed suit in the mid 20th century and offered scholarships for top students to study at the College of Education of the National University and become secondary school teachers and work at the government schools. The program includes intensive content knowledge in a subject of specialization followed by a Teaching Diploma that requires practice teaching experiences in government schools.

BouJaoude (2000) reviewed government documents for teacher preparation as well as course catalogues and syllabi of several universities that prepare teachers. He interviewed university professors involved in teacher preparation and found common practices: teachers of math and science at the elementary level need a Bachelor of Arts in education followed by a Teaching Diploma that includes courses in pedagogy and field work in various schools whereas teacher preparation in upper level science requires more focus on teachers’ knowledge of content and less on field practice. Teachers of middle grades are not catered for by universities. He also found several 2 year private colleges that offer preparation for science teachers where the focus is on the technical practical aspects of teaching and little theory. The public government sector provides teacher preparation through the National University and the Center for Educational Research and Development (CERD), the arm of the Ministry of Education and through the Ministry of Technical and Vocational Education.

CERD has been publishing the numbers and the specialization of all teachers prepared by it since 1971. For instance, for elementary teachers, applicants need a Brevet certificate (middle school certificate of achievement) followed by 3 years preparation; for intermediate school teachers, applicants need a Baccalaureate (a secondary school certificate of achievement) followed by 3 years preparation in a taught subject and its pedagogy (CERD 1995).
2.1 Purpose of teacher programs

The evident purpose of teacher preparation programs in Lebanon is to provide a pool of teachers for private and public schools. The National Lebanese University of Education and the Teacher’s College were originally established to prepare school teachers of all subjects and grade levels according to the needs of public schools as dictated by the Ministry of Education, but the need remains for public and private teacher preparation institutions to produce more and better qualified teachers to satisfy the needs of the Lebanese school system (Sinjkdar 2002).

However, several researchers (e.g. Nahas 2002; Dirani 2002) argue that teacher preparation programs attempt to spread the ideology of the institution in which they are trained and consequently with the diversity of those institutions, the teachers vary in their philosophies, approaches to teaching and learning, professional identity, and exposure to field work. The literature on American style education highlights the benefits of student teachers’ exposure to liberal arts courses rather than mere training in content and pedagogy.

Other Lebanese researchers examined the content of various teacher preparation programs in Lebanon and expressed concerns. Nahas’s (2002) study shows that political influence over teacher preparation is problematic. He calls for assessing the diverse programs and creating awareness that teacher preparation is a national issue and concern. Dirani (2002) examines elementary teachers’ preparation at technical institutes and universities and finds a need for closer scrutiny of programs’ objectives. She recommends closer links between the academic and practical components of those programs. Tohme (2002) examines objectives of preparation programs of intermediate and secondary teachers and in connectedness between research on teaching and learning and teacher preparation. AbuRjell (2002) studies various components of teacher preparation programs in Lebanon (adopted policy, objectives, content, assessment and resources) and finds a need for assessing those programs. She recommends a unified institutionalized process for assessing these programs and diverse tools and approaches be used for this assessment.

The above shows that there are no unified bases or approaches to teacher training in Lebanon.

Recent troubles in Lebanon caused damage to schools and teacher training institutions among others. Several international bodies (e.g. World Bank, UNICEF, UNDP) contributed funds and expert trainers to the Ministry of Education and involved professors of private universities in the process. However, with lack of continuity, follow up and monitoring of application, those initiatives did not last and teacher training resumed its old habits.

3 Purpose and rationale

In the absence of national standards and of formal studies of existing teacher preparation programs, findings of this study are expected to contribute to research on teacher education programs in Lebanon.

Absence of national standards for teacher preparation can create a problem of inconsistent quality among teachers; for example, public schools hire teachers who
studied at the National University and its College of Education whereas most private schools are free to hire graduates of good private universities that are known for rigorous training in pedagogy, language, and field applications. They also retain the right to replace teachers who prove inadequate. Many attribute the poor state of teaching and learning at public schools for the mediocre preparation and background of their teachers and for the difficulty in replacing them once hired (Jarrar et al. 1988). Thus, there is inequity in education provided by both school types (Bahous and Nabhani 2008).

This study examines a pre-service education program at a private university in Lebanon for the purpose of assessing the program’s learning outcomes. Program assessment is important to identify whether set goals are met and to devise a strategic plan based on data not on guesses and speculations (Milloy and Brooke 2004). This is important since the relationship between teacher education, teaching practice and student achievement is discussed at length in the literature (e.g. Darling-Hammond 2000; Bransford et al. 2005b) and more quality research is needed in the field of teachers’ preparation (McFadden and Sheeren 2005; Wilson et al. 2002). We conducted program assessment not in response to noted problem or deficiency but to ensure that quality standards are met and to elicit constructive feedback from the main stakeholders: the learners.

There is also a need to examine student teachers’ development as reflective thinkers and the change in their preconceptions, beliefs, and attitudes about education and teaching. Burchard and Swerdzewski (2009) argue that there is a relationship between metacognitive strategies, academic achievement, and self-efficacy. We train our student teachers in reflective thinking and writing in response to what they learn, and this metacognitive strategy helps reinforce their learning.

4 Research context

The private university where this study is conducted is an American-style university that strives to achieve accreditation for all its programs by a North American accrediting body. The number of students majoring in education is around 120. These future teachers declare a major related to education: preschool, elementary or secondary levels after they complete a common core of a liberal arts program which helps them develop their cognitive competence and performance that a liberal education purports to provide and become rather than to become mere technicians; that is, to become well-informed, and learners for the sake of gaining knowledge (Murray and Porter 1998). Their teacher education includes courses in general education, teaching methods and subject matter relevant to the field of study they choose to teach.

During the final year of a four-year Bachelor of Arts in Education, student–teachers are placed as unpaid interns for a year long pre-service training practicum in private schools that match student–teachers with cooperating teachers who guide and follow them through the training process. Student–teachers spend 180 h in the field experience in partial fulfillment of the requirements of three courses in observation, internship, and practice teaching. They start by observing teachers in action and assisting them in all aspects and teaching lessons as well. They teach mini-lessons in
parallel to the micro-teaching in university classes and receive feedback from their cooperating teachers, classroom students and university instructors. University seminars, spread out over 15 weeks for each course, are used to discuss readings, exchange experiences and find connectedness between what is seen, read, and experienced at schools. Such reflective thinking and writing moves field experience beyond passive observations and routine student teacher chores (see Appendix A, mission and program learning outcomes).

5 Literature review

Both outcomes based education and standards based education have strengths and weaknesses. The former influences curriculum development especially when disciplinary and inter disciplinary topics are used while the latter may influence the principles underpinning the development of the curriculum (see for instance, Watt 2006).

On another note, assessment of learning outcomes is not enough on its own to ensure quality. In fact, students may not understand the term (Fitzpatrick and Byrne 2007) and management may not either Cooper (2007). In the UK, Brindley (1998) explored problems that some countries faced as they implemented outcomes-based assessment to examine learners’ achievement and progress and to ensure system accountability. He found that outcomes statements should be scrutinized for stronger reliability and validity, that assessment and reporting results need stronger links, and that research is needed to continuously examine the effects of such assessment on student learning.

A more recent investigation in the UK (Moore and Williamson 2008) found that assessing learning outcomes faced the problem of how to clearly state what students should do to show they have attained these and to verify achievement and the level at which they are achieved.

In South Africa, outcomes based programs are required by the Ministry of Education for teacher education to ensure that student teachers demonstrate competence in the various identified roles, but Fraser et al. (2005) questions whether assessing learning outcomes is a sufficient determinant for competent teachers. Kruss (2008) had similar concerns after examining the shift to outcomes-based curricula in teacher education in 22 South African universities. Verhesschen (2009) reviewed the literature on and experiences in using learning outcomes in several European countries and concluded that they should not be the only way for describing programs.

The literature shows a variety of program assessment strategies such as those used by the Stanford Teacher Education program and reviewed by Darling-Hammond (2006). One of the assessments is collecting data of candidates’ perceptions of their preparedness and of what they have learned. Darling-Hammond (2006) notes the importance of eliciting students’ views due to the correlation between perceptions and self-efficacy and retention in teaching. Our program assessment is learner centered in that it relies on input from the learners. The reviewed literature shows many studies that are similar to ours in purpose and methodology. For example, Cooner and Dickmann (2006) reported that student reflections replaced formal paper
and pencil tests to assess their program’s learning outcomes. Students were asked to state how their internship experiences met their program’s set objectives, and their supervisors were also asked to assess the students’ performance, but the latter is not the scope of our present study.

In another study, Thursby et al. (2009) assessed the impact of a graduate education program by collecting data with pre and post surveys of student perceptions of how the program affected them. They collected both quantitative and qualitative data and reported findings numerically and in narrative quotes. Likewise, our study uses pre and post surveys of student teachers’ perceptions of what makes a good teacher to identify their change and growth and reports findings in narrative accounts.

Cluph and Lox (2009) also assessed a student teacher training program in Physical Education by eliciting student feedback in written journals about their knowledge and skills and satisfaction with their education. Findings showed that students were not satisfied with their program preparation in how to deal with disruptive students and motivate disaffected students, and subsequently, plans to improve were set.

However, in our study we do not focus on satisfaction surveys as Chism and Szabo (1997) accused most program assessment of teacher education of doing, but we conducted our assessment to check students’ achievement of set objectives.

We also examined the literature on reflective writing and noted its importance in detecting changes in student–teachers’ preconceptions and beliefs about education and teaching and gains in their knowledge and skills. Cultivating them as reflective thinkers is the responsibility of their university educators and cooperating school teachers (Walkington 2005). Through personal reflection and analysis of their work, student teachers reveal their understanding of teaching situations and of their values (Hammeross et al. 2005; Russell and Mumby 1992; Horowitz et al. 2005). Journaling and reflecting at an early stage of the teachers’ careers have implications on the novice teachers’ engagement as they become more proficient teachers (Martin 2005).

In their reflective work assignments, student–teachers interpret what they observe through journals and narrative accounts (Martin 2005; Ryken 2004; Walkington 2005) and their university instructors respond with probing questions and comments (Bolin 1988; Maloney and Campbell-Evans 2002; Martin 2005). Such journals provide student–teachers with opportunities to describe and clarify their pre-conceptualization about teachers, and understand how prior experiences have shaped their preferences. Carter and Doyle (1996) draw attention to student–teachers’ preconceived notions about teachers, which may interfere with what is being learned in field settings. Such cognitive exercises promote reflective thinking about teaching (Maloney and Campbell-Evans 2002) including frustrating and pleasant instances of their pre-service training experience (Ryken 2004).

Student–teachers’ preconceived and ‘lay theories’ of teaching that developed and were reinforced naturally by their experiences prior to the influence of instruction and teacher pre-service education were examined by Surgue (1996) and so were their “culturally embedded archetypes of teaching” (p. 154) that influence students’ views of themselves as teachers. Data analysis yielded metaphors of good teachers and teaching that were rooted in the student–teachers’ personal experiences during their elementary school years. Surgue (1996) argues that, during the initial phases of
teacher preparation, student–teachers focus on teacher personality traits more than on teaching methods as they build metaphors and see the classroom as teacher—directed, so “student–teachers’ lay theories of teaching” reveal “conservatism” (p. 170) that teacher education programs have to uncover and consider reforming. Putting reflection thoughts in journals improves student teachers practice experiences by clarifying many issues involved in the teaching learning experience as Degago (2007) also found in his study of teacher education in Ethiopia.

In journals, student–teachers also reflect by comparing the ideal theory they studied and the theory in use (Francis 1995). In a study of reflective learning in a teacher training program at Istanbul University, Etus (2005) found that trainees’ reflective journals increased their awareness of how theory and experience are connected to what teaching experiences are like. Reflective work helped them see all aspects of teaching as “a coherent whole” (p. 173) and improved their self-esteem as future teachers.

Also, in a study of participants’ perspectives of a pre-service teacher training program in Turkey, Godfrey (2005) found that participants gained greater awareness of how theory and practice linked and acquired new skills and knowledge and a more reflective approach to teaching. They gained confidence and formulated a “sense of their professional self” (p. 176) in light of general characteristics of effective teachers and teaching. White (2007) in her study of New Zealand student–teachers, found that the various forms of feedback that student–teachers receive from instruction and supervision clarify and direct their practice.

6 Method

6.1 Participants

Our study is an exploratory qualitative one in which we assess the learning outcomes of a teacher preparation program by eliciting student–teachers’ perceptions of their pre-service training program (last 2 years of the BA in education) and comparing what is stated as program’s learning outcomes to what they say they experienced and learned in this program.

The participants are 50 student–teachers that were enrolled in the observation, internship, and practice teaching classes during the scholastic year when the study was conducted. The sample is purposive because we chose subjects who are typical to the study needs (Cohen et al. 2000) and because we consider the selected participants capable of providing relevant information (Fraenkel and Wallen 2003). We selected senior students from our student–teachers to respond to the questionnaires, a judgmental sample that would provide information to meet the research objectives (White 2000).

6.2 Instruments

We began by checking the program’s mission statement and found it aligned with the institution’s mission. Then, open-ended questionnaires were distributed to the 50 student–teachers (Appendix B) and 43 responded. The items for the questionnaires
were based on the main concepts in the program’s learning outcomes and in the reviewed literature. The questions were piloted on four alumni students to check clarity and time needed for completion (White 2000), and were modified accordingly before formally administering them to participants.

6.3 Procedure

At the beginning of the student–teacher training, student–teachers were all asked to describe how they perceive an effective teacher (Appendix C) then relate their perceptions of effective teachers after their training (Appendix D) to detect any changes.

Furthermore, students submitted a one to one and a half page journals of responses to focus questions discussing the principles, facts, and techniques they acquired, changes in their behavior after training, and the relation of theoretical studies to work field. Main guidelines of what to include in journals were given to the students. These questions were used to direct their reflective thinking during the weekly seminars. They reflected on how they viewed their pre-service education in light of what they experienced during their 180 h of fieldwork and seminars at the university. Student teachers submitted their journals on weekly basis. One of the researchers who was also teaching these students responded to the students’ journals on weekly basis. Data were collected from journals of 15 of those student–teachers, chosen at random. We read again the 15 journals at the end of the academic year, and grouped the answers according to the common themes relevant to the research questions. Thus, we looked at student teachers’ reflections on principles, facts and techniques acquired, changes in behavior after training, and the relation of learned theory to work field in light of what they had experienced. Qualitative data (narrative accounts) provide rich data found to be more appropriate for our purposes than quantitative methods, which Steinert et al. (2006) claim the latter not to be rigorous enough for program assessment.

Three principles of research ethics were observed by ensuring informed consent and anonymity (Cohen et al. 2000). All subjects were informed about the research goals, and they participated voluntarily. Findings are reported as received and objectively, and triangulation was used to check data validity (Cohen et al. 2000) of the open-ended student–teachers’ questionnaires and students’ journals.

6.4 Analysis and discussion of data

Collecting unstructured data and analyzing it qualitatively is favorable when studying authentic accounts and situations (Gomm et al. 2000). Qualitative data analysis followed Patton’s (1990) inductive methods to highlight recurrent themes in the collected data from student–teachers’ journals. These were coded, grouped into broader themes and checked for relevance to the research purpose. Data from the questionnaires and surveys were analyzed for similar themes, and results from all instruments constituted our findings. These were then compared to the program’s stated learning outcomes to assess whether they were achieved. Students’ narrative accounts were quoted to illustrate and demonstrate students’ achievement of the stated learning outcomes.
7 Results

The study findings are presented under subheadings derived from the program’s main learning outcomes: gained knowledge and skills, and new beliefs and attitudes to teaching. How student teachers perceived reflective writing is also noteworthy.

7.1 Student teachers’ perception of reflective writing

As recommended by the literature on journal reflection (Schon 1987; Martin 2005; Ryken 2004; Walkington 2005), and on instructors and trainers’ guidance (Bolin 1988) student teachers are taught at an early stage in the program to write about their understanding of teaching situations and analyze what they learn and experience. They examine previous concepts of teaching and beliefs about students and teaching and learning processes, compare theory to practical applications and newly acquired knowledge to that previously learned.

All 15 student teachers perceived journal writing as “an effective strategy, it helped me grow as a teacher when I reflected on my work, I discovered that I had … accurate perception … to observe details, comment and criticize how teachers and students act in class”, “very helpful … to remember details … events that took place in the classrooms … you learn a lot from what you write daily/weekly … things that you want to implement later as a teacher or … should avoid”, “it helped me recognize my strengths and weaknesses … reflections helped me in remembering the knowledge and shifting it from the short memory to the long term”, “it was clearer to me and more organized when I wrote journals in knowing what I did and seeing the benefits I gained … be more aware of the things I had done and gained” and “writing ideas in a journal during practice teaching helped me grow many ideas that can’t just be studied in the classroom but must be observed and checked in a real classroom where students and teachers are found.” Seven found they became more confident and one student teacher said “having to reflect … permits experience to be etched in … mind.”

7.2 Student teachers’ perception of their gained knowledge: Learning outcome 1

Student teachers reported what they have gained in general as well as content information and knowledge of the curriculum. Learners identified principles learned in courses being applied in the observed classes. Nine students pointed out that they had become more aware of the importance of using assertive discipline and other disciplinary methods in classes as well as negative and positive reinforcement techniques with students. Ten learners also reflected on using various methods and approaches in their classes to cater for students’ various learning styles: thus, the terms interdisciplinary methods of teaching, cooperative learning, project approach in different fields, individualized learning and other child centered approaches were often mentioned. Other recurrent topics were the following: theories of constructivism implemented in math and science, reading and listening comprehension strategies. Different teaching methods that are suitable to particular subjects and lessons, and improve language skills were also discussed. Measurement and assessment techniques and rubrics, using
different media and activities to enhance learning, and cognitive methods such as behavioral objectives according to Bloom’s Taxonomy and discovery learning were also included in the students’ reflective journals.

All 15 student–teachers emphasized that practice courses enriched their knowledge sometimes more than theoretical courses. They allowed them to see how theory applied in the classroom: “I learned most from practice courses … because closer to reality … from exposure to activities, procedure, planning, evaluation, saw the project approach … in action.” Training gave “hands-on experience” in dealing with various types of students. Another wrote: “I learned techniques, knowledge, theories, and observed their applications in classrooms.”

In their reflective journals and open-ended questionnaires, student–teachers also demonstrated how their acquired knowledge applies to fieldwork and analyzed field work based on university learning as also recommended by Carter and Gonzales (1993) and Francis (1995). Twelve students invoked the three schools of thought: humanistic, cognitive and behavior approaches as a framework for their answers. They noted that, from a humanistic perspective, teachers show empathy and understanding towards their students, accommodate their diverse learning needs, and focus on character and moral education regarding such issues as values clarification, attitudes towards cheating and lying.

From the cognitive perspective, a constructivist approach seems to be prevalent in their observed classrooms, whereby information is processed through rehearsal and practice to facilitate transfer from short-term to long-term encoding, instructional activities promote thinking and problem solving, and finally scaffolding is utilized to facilitate cognitive development.

From a behaviorist perspective, the following strategies are used: computer-assisted instruction, drill and practice and corrective feedback to learn math facts, positive reinforcement and aversive techniques to control behavior, and values clarification taught through literature.

Thirteen student teachers noted that many principles learned in method courses are being applied in the classes they observed while the two others failed to discuss this point in their journals. Under the heading of classroom management, all 15 learners identified assertive discipline and other disciplinary methods, negative and positive reinforcement techniques. As for methods and approaches, 11 of the students identified interdisciplinary methods of teaching, cooperative learning, project approach in different fields, individualized learning and other child centered approaches. In relation to subject matter courses, 13 student–teachers pointed out how theories of constructivism are implemented in math and science, and how reading strategies, listening comprehension strategies, different teaching methods fit particular subjects and lessons, and improve language skills. For assessment and evaluation, all students pinpointed the importance of measurement and assessment techniques and rubrics, using different media and activities to enhance learning, and cognitive methods such as behavioral objectives according to Bloom’s Taxonomy and discovery learning,

This shows that reflective writing helped our students reconceptualize their teaching ideas in light of what they learned in theory and practice. This concurs with the literature reviewed earlier.
7.3 Student teachers’ perception of their learned skills: Learning outcome 2

Students teachers focused on their learning organizational skills and work ethics, becoming role models, communicating with children, applying their knowledge of evaluating children’s books, using technology, and preparing an appropriate learning environment. Ten student–teachers reported having learned important skills such as writing objectives and thematic units, applying instructional strategies, managing classrooms, and dealing with parents: “Learned to set up environment and rules and how to communicate with children”, “saw how math strategies are actually applied by cooperating teachers”, and “how students reacted to the various strategies and how they challenge and ask”.

Findings indicate that in terms of skills, all 15 student–teachers noted improvement in their command of languages, learned and applied innovative teaching strategies, lesson planning, effective behavior management and communication skills. Further, they learned how to stimulate students’ curiosity, engage them in the process of learning, and help them discover learning in fun ways. They learned how to be organized, plan lessons effectively, ask higher order questions, and be alert and neat.

These findings show that reflection increases students’ awareness of the relevance of what they learn to what they experience in fieldwork and in line with the literature on analyzing classroom events (see Etus 2005; Godfrey 2005; Francis 1995). Reflective writing also develops higher order thinking and encourages examining teacher issues from many perspectives (Risko et al. 1992).

7.4 Student teachers’ perception of their new attitudes: Learning outcome 3

To modify attitudes and develop more positive ones is another learning outcome of our program. Student–teachers reflected on how they changed and grew: One wrote “The program … helped shape my character, developed my leadership skills and taught me discipline and to see things through a new perspective.” Another one stated “I developed attitude of learning and exploring new things”. Ten of them noted that their training made them “inquisitive” and “fostered a positive attitude towards children and learning.” Fourteen of the student–teachers became more interested in the teaching profession and grew to appreciate its complexity and demands and the great reward of seeing children learn while the remaining one did not even mention it.

To promote positive change of attitude, students were also asked to reflect, in their journals, on their pre-conceptions of teachers’ roles and as they progress in the program, they are asked to describe how these are modified. For example, some culturally embedded metaphors of teachers and teaching may be rooted in their prior personal experiences (most of which may be traditional).

Before exposure to courses and practical experience, all respondents described effective teachers as friendly, patient, caring, parental, understanding, interesting, fair, influential and flexible persons who are loved by their students and who understand their needs. Also, they perceived that effective teachers know how to manage their classes, know and can explain clearly the subject they teach, know their students, and act as good role models. Other students held different, sometimes negative
perceptions. They believed that effective teachers are strict and disciplinarian, have easy responsibilities, use traditional approaches, and hold regular meetings. They also thought teachers were tough and mean with weak students.

However, students’ perceptions were changed in various ways. They learned to believe that teachers need to know about child psychology, the school mission and goals, Bloom’s Taxonomy and lesson planning. As for attitude, effective teaching was believed to be characterized by patience and hard work, sacrifice, nurturance, respect and calmness, enthusiasm and humor, firmness and consistency, interest in teaching and students. In terms of values, effective teachers were perceived as role models who teach values, are sensitive to students’ individual needs and abilities, facilitate learning, and help students grow cognitively and affectively, are nonjudgmental and unbiased, and encourage freedom of expression.

Data from the 15 student–teachers journals showed similar change in student–teachers conceptions of teachers from being knowledgeable about content and methods and classroom management to having additional traits. Ten of them saw effective teachers as trained in special needs and aware and respectful of gender and religious issues and know how schools’ mission and current curriculum goals translate into the classroom while the other five saw effective teachers as caring, knowledgeable in their subject matter, and respectful of others.

The above data indicate change in student–teachers views about effective teachers. This is in line with the literature (Carter and Doyle 1996; Knowles 1992; Russell and Mumbly 1992; Surgue 1996) that reflecting on what’s learned can help student–teachers modify preconceptions of teachers and teaching as they observe examples of good practice and compare to theory and reflect on this. This would hopefully improve the quality of their teaching; their knowledge and beliefs about content, curriculum materials, and teaching and learning, their “disposition toward reflective practice” (Davis and Krajcik 2005 p. 4) will help shape the curriculum they teach.

These findings on student–teachers evaluating themselves as professionals (Godfrey 2005; Carter and Gonzales 1993) and on engaging in self-evaluation activities (Messick 1994), also contribute to an increase in their self-esteem (Etus 2005).

8 Conclusion and future research

Assessing a program’s learning outcomes is not an easy task as our aim is to keep the teaching/learning process more transparent and student centered. We tried in this paper to link theory to practice and assess the program’s learning outcomes through the work of our students’ reflective thinking and journal writing (Coonen and Dickmann 2006).

Reflective thinking thus develops during student teachers 1 year internships with cooperating teachers, intensive classroom observation and microteaching before starting actual teaching in their lab schools (McIntyre et al. 1996). They reflect on their acquired knowledge and skills (Russell and Mumbly 1992) from what they learn in their content and methodology courses (Davis and Krajcik 2005). They also analyze teaching situations and the understandings and values connected to these. The weekly university seminars are used to share, discuss and evaluate student–
teachers’ observation, readings, and field experience (Carter and Anders 1998) in order to develop their reflective thinking (Martin 2005; Walkington 2005).

Indeed, relevant knowledge, practical skills, and appropriate attitudes are incorporated in the Education Program. Students are exposed to theories and practice. They are given guidance to see links between both, and discover their preconceptions of teaching as well as become aware of themselves as professionals. Furthermore, they are exposed to experienced teachers willing to be mentors. However, more rigorous student teacher training is still needed so that the alignment of the learning outcomes with program assessment is stronger and clearer to the students.

In the Netherlands, for instance a review of all teacher training institutes in various universities (QANU 2010) found a strong research component that focuses on how student teachers perceive themselves as professionals and on action research to identify strengths and weaknesses in the teaching approaches of the university professors in charge of student teachers. A study of a programs’ management, faculty’s relevant action research, and dissemination of knowledge from research are recommended supplements.

The literature recommends that for each learning outcome, there are set tasks set for learners to achieve and instructors to observe. These tasks are to be based on criteria in order to determine how well the tasks were achieved as well as strategies to help learners who have problems achieving them (Ontario Ministry of Education and Training 1997). Raudbaugh’s (2000) study of education programs presented instructional strategies, relevant resources and assessment methods for each learning outcome, and Onwu and Mogari (2004) recommended professional development for those working with outcomes-based education.

Thus, learning outcomes can help instructors set a frame for student teachers’ achievement but there remains a need to use clear and valid statements of outcomes and explicit tasks and criteria for assessing the tasks under each outcome. Professional development for all involved is necessary to ensure clarity of requirements and reliability of results.

Follow up research would target a sample of graduates on the job and survey whether they felt less prepared as they encounter daily classroom situations. Triangulating is necessary by including data of graduates’ opinions of their teacher preparation program and from course instructors who are in contact with student teachers. This could be carried out in using multiple measures to obtain a clearer view of what our student teachers learn and what we need to improve as Darling-Hammond (2006) recommends.

Appendix A

Mission

Under the umbrella of the University’s vision, the mission of the Education Program is to prepare professional K-12 teachers who are academically well grounded in both their subject matter and pedagogy, and to enable experienced educators to update their knowledge and skills.
Expected learning outcomes

The education programs aim to prepare teachers who demonstrate:

a. Relevant knowledge
   1. depth and breadth in subject and content;
   2. general pedagogical knowledge;
   3. specific pedagogical content knowledge;
   4. awareness of developmentally appropriate practice
   5. awareness of professional standards;
   6. awareness of the national curriculum objectives and standards.

b. Practical skills
   1. diverse approaches to instruction and assessment
   2. effective classroom management strategies
   3. motivational strategies
   4. strategies to promote higher-level thinking
   5. guidance and discipline methods

c. Appropriate attitude
   1. readiness to develop authentic relationships with students
   2. readiness to establish democratic and socially just learning environment
   3. readiness to reflect on one’s practice and continuous learning.

Appendix B

Open-ended questionnaires
   (Guiding questions for student teachers’ journals)
   This questionnaire aims at collecting your feedback on your overall experiences in the education courses. Your answers will be kept confidential.

• What are three specific things you learned in your education courses in terms of classroom management, internship, methods of teaching, and questioning techniques?
• How are the following schools of thoughts applied in the class where you are placed? (two examples for each)
   Humanisitic
   Cognitive
   Behaviorist
• How are various theories that you learned in the practicum courses applied in the class you are placed? (List four examples)
• How did the education courses help you in your thinking about teaching? (List three examples)
• How did the cooperating teacher help you achieve that? (List three points)
• How did the courses help you confirm your interest in the field?
Appendix C

Prepare a profile of a good teacher (think of the following terms: skills, knowledge, attitude, values)

Appendix D

Table 1  How much emphasis was placed on these teachers’ characteristics in the education courses?

<table>
<thead>
<tr>
<th>Rank</th>
<th>Teachers’ Characteristics</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Have positive relationships with students</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Maintain discipline and control</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Be empathic</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Use active listening</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Use positive assertive discipline</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Be enthusiastic</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Know subject matter in depth</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Promote critical thinking (all levels of Bloom’s Taxonomy)</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Cater to students’ multiple intelligences and learning styles</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Focus on skills, knowledge and attitudes of students</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Use broad-based evaluation</td>
<td>5 4 3 2 1</td>
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<tr>
<td></td>
<td>Avoid rote-learning and promote discovery learning</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Plan</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Use nonverbal communication effectively</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Avoid sexism</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Use an integrated approach to learning</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Maximize engaged time and on-task behaviour</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Allow guided and independent practice</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Model effective behaviour</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Provide immediate and constructive feedback</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Divide lesson into distinct parts: opening (set induction), presentation, and closing (review or evaluation)</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Attend to cognitive, emotional, physiological and psychological needs of students</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

Rank the top ten teacher characteristics in order of importance starting with number one as the most important according to you

Circle the appropriate number (5 = very high, 4 = high, 3 = average; 2 = low; 1 = very low)

References


